AUTHOR INDEX

Ainsworth, D.M., see Smith, C.A., 123
Anderson, J., see Raj, J.U., 307
Anderson, J.W., Sant'Ambrogio, F.B., Orani, G.P., Sant'Ambrogio, G. and Mathew, O.P., Carbon dioxide-responsive laryngeal receptors in the dog, 217
Anderson, J.W., see Mathew, O.P., 359
Anderson, L., see Art, T., 279
Andronikou, S., see Lahiri, S., 201
Anthonisen, N.R., see Georgopoulos, D., 115
Art, T., Anderson, L., Woakes, A.J., Roberts, C., Butler, P.J., Snow, D.H. and Lekeux, P., Mechanics of breathing during strenuous exercise in thoroughbred horses, 279

Barbalat, F., see Binzoni, T., 137
Bartlett Jr., D., see Fregosi, R.F., 189
Bascom, D.A., Clement, I.D., Cunningham, D.A., Painter, R. and Robbins, P.A., Changes in peripheral chemoreflex sensitivity during sustained, isocapnic hypoxia, 161
Begle, R.L. and Skatrud, J.B., Hyperinflation and expiratory muscle recruitment during NREM sleep in humans, 47
Berezanski, D., see Georgopoulos, D., 115
Berger, P.J., Horne, R.S.C., Soust, M., Walker, A.M. and Maloney, J.E., Breathing at birth and the associated blood gas and pH changes in the lamb, 251
Binzoni, T., Ferretti, G., Barbalat, F. and Cerretelli, P., Energetics of resting anaerobic frog gastrocnemius at different temperatures by ^{31}P-NMR, 137
Bucher, T.L., Chappell, M.A. and Morgan, K.R., The ontogeny of oxygen consumption and ventilation in the Adélie penguin, *Pygoscelis adeliae*, 369
Buess, C., see Hahn, G., 39
Butler, J., see Lakshminarayan, S., 317
Butler, J., see Lakshminarayan, S., 65
Butler, P.J., see Art, T., 279

Carlo, W.A., see Haxhiu, M.A., 267
Cerretelli, P., see Binzoni, T., 137
Chang, H.K., see Maarek, J.-M.I., 149
Chappell, M.A., see Bucher, T.L., 369
Chartrand, D.A., see Maarek, J.-M.I., 149
Clement, I.D., see Bascom, D.A., 161
Clifford, P.S., see Coon, R.L., 349
Colbert, S.R., see Schelegle, E.S., 325
Coon, R.L., Clifford, P.S., Hopp, F.A. nd Zuperku, E.J., Reflex ventilatory effects of KCl stimulation of lung receptors with sympathetic afferents, 349
Cross, C.E., see Schelegle, E.S., 325
Cunningham, D.A., see Bascom, D.A., 161

Dempsey, J.A., see Smith, C.A., 123
Desplanches, D., see Favier, R.J., 75
DiMarco, A.F., Romaniuk, J.R. and Supinski, G.S., Action of the intercostal muscles on the rib cage, 295
Douse, M.A., see Pizarro, J., 337

Favier, R.J., Desplanches, D., Pagliari, R., Semporé, B., Mayet, M.H., Simi, B., Péquignot, J.M., Frutoso, J. and Flandrois, R., Effect of almitrine administration on pulmonary arterial ressure in resting and exercising dogs, 75
Ferretti, G., see Binzoni, T., 137
Flandrois, R., see Favier, R.J., 75
Fregosi, R.F., Bartlett Jr., D. and St. John, W.M., Influence of phasic volume feedback on abdominal expiratory nerve activity, 189
Frutoso, J., see Favier, R.J., 75

Georgopoulos, D., Berezanski, D. and Anthonisen, N.R., Effect of dichloroacetate on ventilatory response to sustained hypoxia in normal adults, 115
Graham, M., see Lakshminarayan, S., 65
Grindlay Moore, L., see Regensteiner, J.G., 107
Gropper, M., see Raj, J.U., 307
Gunther, R.A., see Schelegle, E.S., 325

Hahn, G., Spinková, I., Buess, C., Meyer, M. and Piiper, J., Multiple breath washout of He and SF6 in panting dogs, 39
Haxhiu, M.A., Haxhiu-Poskurica, B., Moracic, V., Carlo, W.A. and Martin, R.J., Reflex and chemical responses of tracheal submocosal glands in piglets, 267
Haxhiu-Poskurica, B., see Haxhiu, M.A., 267
Henderson, K.S., see Smith, C.A., 123
Hillyard, R., see Raj, J.U., 307
Hopp, F.A., see Coon, R.L., 349
Horne, R.S.C., see Berger, P.J., 251

Kaapa, P., see Raj, J.U., 307
Kamm, R.D., see Tsuzaki, K., 89
Kirk, W., see Lakshminarayan, S., 317
Kirk, W., see Lakshminarayan, S., 65
Kowalski, T.F., see Lakshminarayan, S., 317
Kowalski, T.F., see Lakshminarayan, S., 65

Lahiri, S., Moskashi, A., Shirahata, M. and Andronikou, S., Chemical respiratory control in chronically hyperoxic cats, 201
Lakshminarayan, S., Kowalski, T.F., Kirk, W. and Butler, J., The effect of bronchial venous pressure on pulmonary edema in the dog, 317
Lakshminarayan, S., Kowalski, T.F., Kirk, W., Graham, M. and Butler, J., The drainage routes of the bronchial blood flow in anesthetized dogs, 65
Lee, L.-Y., Inhibitory effect of gas phase cigarette smoke on breathing: role of hydroxyl radical, 227
Lekeux, P., see Art, T., 279
Leuthold, R., see Spahn, D.R., 29
Loring, S.H., Mead, J. and Waggener, Th.B., Determinants of breaking frequency during walking, 177
Ludders, J.W., see Pizarro, J., 337

Maarek, J.-M.I., Chartrand, D.A., Ye, T.-H. and Chang, H.K., Pulmonary lobar vascular resistances during constant and pulsatile flows, 149
Maloney, J.E., see Berger, P.J., 251
Martin, R.J., see Haxhiu, M.A., 267
Mathew, O.P., Anderson, J.W., Orani, G.P., Sant'Ambrogio, F.B. and Sant'Ambrogio, G., Cooling mediates the ventilatory depression associated with airflow through the larynx, 359
Mathew, P.P., see Anderson, J.W., 217
Mathieu-Costello, O., see Poole, D.C., 1
Mayet, M.H., see Favier, R.J., 75
McCullough, R.E., see Regensteiner, J.G., 107
McCullough, R.G., see Regensteiner, J.G., 107
Mead, J., see Loring, S.H., 177
Meyer, M., Gas mixing in dog lungs during high frequency ventilation studied by partial washout-single exhalation technique, 11
Meyer, M., see Hahn, G., 39
Mitchell, G.S., see Pizarro, J., 337
Mitchell, G.S., see Warner, M.M., 239
Moracic, V., see Haxhiu, M.A., 267
Morgazn, K.R., see Bucher, T.L., 369
Mokaski, A., see Lahiri, S., 201

Niederer, P.F., see Spahn, D.R., 29

Orani, G.P., see Anderson, J.W., 217
Orani, G.P., see Mathew, P.P., 359

Pagliari, R., see Favier, R.J., 75
Painter, R., see Bascom, D.A., 161
Parsons, G.H., see Schelegle, E.S., 325
Pickett, C.K., see Regensteiner, J.G., 107
Piiper, J., see Hahn, G., 39
Pizarro, J., Ludders, J.W., Douse, M.A. and Mitchell, G.S., Halothane effects on ventilatory responses to changes in intrapulmonary CO_2 in in geese, 337
Poole, D.C. and Mathieu-Costello, O., Effects of hypoxia on capillary orientation in anterior tibialis muscle of highly active mice, 1
Péquignot, J.M., see Favier, R.J., 75

Raj, J.U., Hillyard, R., Kaapa, P., Anderson, J. and Gropper, M., Pulmonary vascular pressure profile in 2–3-week-old, 5–6-week-old and adult ferrets, 307
Regensteiner, J.G., McCullough, R.G., McCullough, R.E., Pickett, C.K. and Grindlay Moore, L., Combined effects of female hormones and exercise on hypoxic ventilatory response, 107
Robbins, P.A., see Bascom, D.A., 161
Roberts, C., see Art, T., 279
Romaniuk, J.R., see DiMarco, A.F., 295

Sant'Ambrogio, F.B., see Anderson, J.W., 217
Sant'Ambrogio, F.B., see Mathew, O.P., 359
Sant'Ambrogio, G., see Anderson, J.W., 217

Sant'Ambrogio, G., see Mathew, O.P., 359
Schelegle, E.S., Gunther, R.A., Parsons, G.H., Colbert, S.R., Yousef, M.A.A. and Cross, C.E., Acute ozone exposure increases bronchial blood flow in conscious sheep, 325
Schmid, E.R., see Spahn, D.R., 29
Semporé, B., see Favier, R.J., 75
Shirahata, M., see Lahiri, S., 201
Simi, B., see Favier, R.J., 75
Sipinková, I., see Hahn, G., 39
Skatrud, J.B., see Begle, R.L., 47
Smith, C.A., Ainsworth, D.M., Henderson, K.S. and Dempsey, J.A., The influence of cartid body chemoreceptors on expiratory muscle activity, 123
Snow, D.H., see Art, T., 279
Soust, M., see Berger, P.J., 251
Spahn, D.R., Leuthold, R., Schmid, E.R. and Niederer, P.F., Gas transport enhancement in high-frequency oscillation, 29
St. John, W.M., see Fregosi, R.F., 189
Supinski, G.S., see DiMarco, A.F., 295

Tsuzaki, K. and Kamm, R.D., Flow distribution in a single bifurcation during high-frequency oscillation, 89

Waggener, Th.B., see Loring, S.H., 177
Walker, A.M., see Berger, P.J., 251
Warner, M.M. and Mitchell, G.S., Ventilatory responses to hyperkalemia and exercise in normoxic and hypoxic goats, 239
Woakes, A.J., see Art, T., 279

Ye, T.-H., see Maarek, J.-M.I., 149
Yousef, M.A.A., see Schelegle, E.S., 325

Zuperku, E.J., see Coon, R.L., 349

SUBJECT INDEX

Age, and pulmonary vascular resistance, Animal, ferret; Micropuncture, of pulmonary vessels; Pulmonary circulation; Pulmonary vascular resistance, 307

Airflow through the upper airways, depression of ventilation, Animal, dog, Larynx, temperature in –, Upper airways, airflow through –, 359

Airway receptors, response to smoke, Animal, rat, Bronchopulmonary afferents, Cigarette smoke, and airway receptors, Drugs, dimethylthiourea, Oxygen radicals, and cigarette smoke, 227

Airways, flow distribution in bifurcations, High-frequency ventilation, Pendelluft, Ventilation, asynchronous –, by high-frequency, 89

Airways, fluid secretion, Animal, pig, Chemoreceptors, peripheral, Lung receptors, irritant, laryngeal, Pulmonary afferent fibers, Substance P, 267

Allometry, Animal, penguin, Energy metabolism, in birds, during ontogeny, Size, and energy metabolism, 369

Alveolar plateau, slope of –, Animal, dog, High frequency ventilation, Inert gases, intrapulmonary mixing, wash-out from lungs, Single exhalation technique, 11

Anesthetics, and respiration in birds, Animal, goose, Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Intrapulmonary chemoreceptors, in birds, Sensitivity to halothane, Response of ventilation to CO_2, 337

Animal, Japanese waltzing mouse, Exercise, and capillary tortuosity, Hypoxia, and capillary tortuosity, Muscle, capillarization, sarcomere length, 1

Animal, cat, Control of breathing, expiratory muscles, Diaphragm, and lung feedback, Expiratory muscles, and lung feedback, Hypercapnia, and respiratory muscles, Hypoxia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Animal, cat, Carotid chemoreceptors, in chronic hypoxia, Control of breathing, after chronic hyperoxia, Dopamine, Hypercapnia, ventilatory response in chronic hyperoxia, Hyperoxia, chronic – and control of breathing, 201

Animal, dog, Alveolar plateau, slope of –, High frequency ventilation, Inert gases, intrapulmonary mixing, wash-out from lungs, Single exhalation technique, 11

Animal, dog, Artificial ventilation, high-frequency oscillation, Gas transport, in high-frequency oscillation, High-frequency oscillation, 29

Animal, dog, Gas mixing, intrapulmonary, Inert gases, He, SF_6, wash-out from lungs, Panting, and intrapulmonary gas mixing, Washout, of gases from lungs, 39

Animal, dog, Blood flow, to intrapulmonary and extrapulmonary bronchi, Bronchial blood flow, drainage routes, Circulation, bronchial, pulmonary, Isolated lung lobe, lood flow, Radioactive labels, and bronchial circulation, 65

Animal, dog, Drug, almitrine, Exercise, and pulmonary artery pressure, Pressure, pulmonary artery, Pulmonary resistance, Pulmonary vasoconstriction, Resistance, pulmonary vascular, 75

Animal, dog, Carotid bodies, and respiratory muscles, EMG, of respiratory muscles, Muscles, see also Respiratory muscles, Respiratory muscles, and carotid body activity, Vagus, cold block and respiratory muscle activity, 123

Animal, dog, Blood flow, steady vs pulsatile pulmonary –, Lung lobe, isolated, Lung perfusion, Pressure, pulmonary occlusion –, Resistance, pulmonary vascular –, 149

Animal, dog, CO_2 sensitivity, of laryngeal receptors, Laryngeal receptors, discharge pattern during breathing, Receptors, irritant of the airways, laryngeal, Superior laryngeal nerve, Upper airways, receptors, 217

Animal, dog, EMG, of respiratory muscles, Respiratory muscles, parasternal intercostals, interosseous externals, intercostals, Rib cage, movement and intercostal muscles, 295

Animal, dog, Bronchial circulation, Edema, pul-

monary –, formation with elevated central venous pressure, Pressure, pulmonary circulation, pulmonary lymphatic –, systemic venous –, Pulmonary circulation, edema formation, 317

Animal, dog, Lung receptors, with sympathetic afferents, Respiratory muscles, and sympathetic long afferents, Sympathetic lung afferents, stimulation by KCl, Vagotomy, 349

Animal, dog, Airflow through the upper airways, depression of ventilation, Larynx, temperature in –, Upper airways, airflow through –, 359

Animal, ferret, Age, and pulmonary vascular resistance, Micropuncture, of pulmonary vessels, Pulmonary circulation, Pulmonary vascular resistance, 307

Animal, frog, Lactic acid, in anaerobic muscle, Muscle, gastrocnemius, anaerobic energetics, Phospho creatine splitting, Technique, ^{31}P-NMR, Temperature, and anaerobic muscle energetics, 137

Animal, goat, Control of breathing, exercise hypernea, Exercise, ventilatory response to –, Hypoxia, exercise hypernea in –, Potassium, and exercise, 239

Animal, goose, Anesthetics, and respiration in birds, Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Intrapulmonary chemoreceptors, in birds, Sensitivity in halothane, Response of ventilation to CO_2, 337

Animal, horse, Exercise, and mechanics of breathing in horse, Mechanics of breathing, in exercising horse, Work of breathing, in exercising horse, 279

Animal, lamb, Birth, onset of respiration, Blood gases, at birth, Control of breathing, at birth, Diaphragm, EMG at birth, pH, at birth, 251

Animal, man, Expiratory muscles, recruitment in NREM sleep, during hyperinflation, Loaded breathing, Lung volume, and expiratory muscles, Respiratory muscles, during sleep, Sleep, and respiratory muscles, 47

Animal, man, Control of breathing, hypoxic ventilatory response, Hormones, sex – and control of breathing. Hypoxic ventilatory response, sex differences, 107

Animal, man, Control of breathing, and hypoxia, Drugs, dichloroacetate, Hypoxia, ventilatory response, Lactate formation, in the brain and hypoxic ventilatory response, block of, – formation by dichloroacetate, 115

Animal, man, Chemoreceptors, central, peripheral, Control of breathing, hypercapnia, hypoxia, Hypoxic ventilatory decline, Ventilation, response to hypercapnia, response to hypoxia, 161

Animal, penguin, Allometry, Energy metabolism, in birds, during ontogeny, Size, and energy metabolism, 369

Animal, pig, Airways, fluid secretion, Chemoreceptors, peripheral, Lung receptors, irritant, laryngeal, Pulmonary afferent fibers, Substance P, 267

Animal, rat, Airway receptors, response to smoke, Bronchopulmonary afferents, Cigarette smoke, and airway receptors, Drugs, dimethylthiourea, Oxygen radicals, and cigarette smoke, 227

Animal, sheep, Bronchial blood flow, Doppler flow measurement, Ozone, and bronchial blood flow, 325

Artificial ventilation, high-frequency oscillation, Animal, dog, Gas transport, in high-frequency oscillation, High-frequency oscillation, High-frequency oscillation, 29

Birth, onset of respiration, Animal, lamb, Blood gases, at birth, Control of breathing, at birth, Diaphragm, EMG at birth, pH, at birth, 251

Blood flow, to intrapulmonary and extrapulmonary bronchi, Animal, dog, Bronchial blood flow, drainage routes, Circulation, bronchial, pulmonary, Isolated lung lobe, blood flow, Radioactive labels, and bronchial circulation, 65

Blood flow, steady vs pulsatile pulmonary -, Animal, dog, Lung lobe, isolated, Lung perfusion, Pressure, pulmonary occlusion –, Resistance, pulmonary vascular –, 149

Blood gases, at birth, Animal, lamb, Birth, onset of respiration, Control of breathing, at birth, Diaphragm, EMG at birth, pH, at birth, 251

Brochial blood flow, drainage routes, Animal, dog, Blood flow, to intrapulmonary and extrapulmonary bronchi, Circulation, bronchial, pulmonary, Isolated lung lobe, blood flow, Radioactive labels, and bronchial circulation, 65

Brochial circulation, Animal, dog, Edema, pulmonary –, formation with elevated central venous pressure, Pressure, pulmonary circulation, pulmonary lymphatic –, systemic venous –, Pulmonary circulation, edema formation, 317

Bronchial blood flow, Animal, sheep, Doppler flow measurement, Ozone, and bronchial flow, 325

Bronchopulmonary afferents, Airway receptors, response to smoke, Animal, rat, Cigarette smoke, and airway receptors, Drugs, dimethylthiourea, Oxygen radicals, and cigarette smoke, 227

CO_2 sensitivity, of laryngeal receptors, Animal, dog, Laryngeal receptors, discharge pattern during breathing, Receptors, irritant of the airways, laryngeal, Superior laryngeal nerve, Upper airways, receptors, 217

Carotid bodies, and respiratory muscles, Animal, dog, EMG, of respiratory muscles, Muscles, see also Respiratory muscles, Respiratory muscles, and carotid body activity, Vagus, cold block and respiratory muscle activity, 123

Carotid chemoreceptors, in chronic hypoxia, Animal, cat, Control of breathing, after chronic hyperoxia, Dopamine, Hypercapnia, ventilatory response in chronic hyperoxia, Hyperoxia, chronic – and control of breathing, 201

Chemoreceptors, central, peripheral, Animal, man, Control of breathing, hypercapnia, hypoxia, Hypoxic ventilatory decline, Ventilation, response to hypercapnia, response to hypoxia, 161

Chemoraceptors, peripheral, Airways, fluid secretion, Animal, pig, Lung receptors, irritant, laryngeal, Pulmonary afferent fibers, Substance P, 267

Cigarette smoke, and airways receptors, Airway receptors, response to smoke, Animal, rat, Bronchopulmonary afferents, Drugs, dimethylthiourea, Oxygen radicals, and cigarette smoke, 227

Circulation, bronchial, pulmonary, Animal, dog, Blood flow, to intrapulmonary and extrapulmonary bronchi, Bronchial blood flow, drainage routes, Isolated lung lobe, blood flow, Radioactive labels, and bronchial circulation, 65

Control of breathing, hypoxic ventilatory response, Animal, man, Hormones, sex – and control of breathing, Hypoxic ventilatory response, sex differences, 107

Control of breathing, and hypoxia, Animal, man, Drugs, dichloroacetate, Hypoxia, ventilatory response, Lactate formation, in the brain and hypoxic ventilatory response, block of, – formation by dichloroacetate, 115

Control of breathing, hypercapnia, hypoxia, Animal, man, Chemoreceptors, central, peripheral, Hypoxic ventilatory decline, Ventilation, response to hypercapnia, response to hypoxia, 161

Control of breathing, during walking, Entrainment of breathing during walking, Exercise, and control of breathing, Frequency of breathing, and stepping frequency, Treadmill, walking on – and respiratory frequency, Animal, man

Control of breathing, expiratory muscles, Animal, cat, Diaphragm, and lung feedback, Expiratory muscles, and lung feedback, Hypercapnia, and respiratory muscles, Hypoxia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Control of breathing, after chronic hyperoxia, Animal, cat, Carotid chemoreceptors, in chronic hypoxia, Dopamine, Hypercapnia, ventilatory response in chronic hyperoxia, Hyperoxia, chronic – and control of breathing, 201

Control of breathing, exercise hyperpnea, Animal, goat, Exercise, ventilatory response to –, Hypoxia, exercise hyperpnea in –, Potassium, and exercise hyperpnea, 239

Control of breathing, at birth, Animal, lamb, Birth, onset of respiration, Blood gases, at birth, Diaphragm, EMG at birth, pH, at birth, 251

Diaphragm, and lung feedback, Animal, cat, Control of breathing, expiratory muscles, Expiratory muscles, and lung feedback, Hypercapnia, and respiratory muscles, Hypoxia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Diaphragm, EMG at birth, Animal, lamb, Birth, onset of respiration, Blood gases, at birth, Control of breathing, at birth, pH, at birth, 251

Dopamine, Animal, cat, Carotid chemoreceptors, in chronic hypoxia, Control of breathing, after chronic hyperoxia, Hypercapnia, ventilatory response in chronic hyperoxia, Hyperoxia, chronic – and control of breatng, 201

Doppler flow measurement, Animal, sheep, Bronchial blood flow, Ozone, and bronchial blood flow, 325

Drug, almitrine, Animal, dog, Exercise, nd pulmonary artery pressure, Pressure, pulmonary artery, Pulmonary vascular resistance, Pulmonary vasoconstriction, Resistance, pulmonary vascular, 75

Drugs, dichloroacetate, Animal, man, Control of breathing, and hypoxia, Hypoxia, ventilatory response, Lactate formation, in the brain and

hypoxic ventilatory response, block of, – formation by dichloroacetate, 115

Drugs, dimethylthiourea, Airway receptors, response to smoke, Animal, rat, Bronchopulmonary afferents, Cigarette smoke, and airways receptors, Oxygen radicals, and cigarette smoke, 227

EMG, of respiratory muscles, Animal, dog, Carotid bodies, and respiratory muscles, Muscles, see also Respiratory muscles, Respiratory muscles, and carotid body activity, Vagus, cold block and respiratory muscle activity, 123

EMG, of respiratory muscles, Animal, dog, Respiratory muscles, parasternal intercostals, interosseous externals, intercostals, Rib cage, movement and intercostal muscles, 295

Edema, pulmonary –, formation with elevated central venous pressure, Animal, dog, Bronchial circulation, Pressure, pulmonary circulation, pulmonary lymphatic –, systemic venous –, Pulmonary circulation, edema formation, 317

Energy metabolism, in birds, during ontogeny, Allometry, Animal, penguin, Size, and energy metabolism, 369

Entrainment of breathing during walking, Control of breathing, during walking, Exercise, and control of breathing, Frequency of breathing, and stepping frequency, Treadmill, walking on – and respiratory frequency, Animal, man

Exercise, and capillary tortuosity, Animal, Japanese waltzing mouse, Hypoxia, and capillary tortuosity, Muscle capillarization, sarcomere length, 1

Exercise, and pulmonary artery pressure, Animal, dog, Drug, almitrine, Pressure, pulmonary artery, Pulmonary vascular resistance, Pulmonary vasoconstriction, Resistance, pulmonary vascular, 75

Exercise, and control of breathing, Control of breathing, during walking, Entrainment of breathing during walking, Frequency of breathing, and stepping frequency, Treadmill, walking on – and respiratory frequency, Animal, man

Exercise, ventilatory response to –, Animal, goat, Control of breathing, exercise hyperpnea, Hypoxia, exercise hyperpnea in –, Potassium, and exercise hyperpnea, 239

Exercise, and mechanics of breathing in horse, Animal, horse, Mechanics of breathing, in exercising horse, Work of breathing, in exercising horse, 279

Expiration muscles, recruitment in NREM sleep, during hyperinflation, Animal, man, Loaded breathing, Lung volume, and expiratory muscles, Respiratory muscles, during sleep, Sleep, and respiratory muscles, 47

Expiratory muscles, and lung feedback, Animal, cat, Control of breathing, expiratory muscles, Diaphragm, and lung feedback, Hypercapnia, and respiratory muscles, Hypoxia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Formation by dichloroacetate, block of –, Animal, man, Control of breathing, and hypoxia, Drugs, dichloroacetate, Hypoxia, ventilatory response, Lactate formation, in the brain and hypoxic ventilatory response, block of, 115

Frequency of breathing, and stepping frequency, Control of breathing, during walking, Entrainment of breathing during walking, Exercise, and control of breathing, Treadmill, walking on – and respiratory frequency, Animal, man

Gas mixing, intrapulmonary, Animal, dog, Inert gases, He, SF_6, wash-out from lungs, Panting, and intrapulmonary gas mixing, Washout, of gases from lungs, 39

Gas transport, in high-frequency oscillation, Animal, dog, Artificial ventilation, high-frequency oscillation, High-frequency oscillation, 29

Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Anethetics, and respiration in birds, Animal, goose, Intrapulmonary chemoreceptors, in birds, Sensitivity to halothane, Response of ventilation to CO_2, 337

High frequency ventilation, Alveolar plateau, slope of –, Animal, dog, Inert gases, intrapulmonary mixing, wash-out from lungs, Single exhalation technique, 11

High-frequency oscillation, Animal, dog, Artificical ventilation, high-frequency oscillation, Gas transport, in high-frequency oscillation, 29

High-frequency ventilation, Airways, flow distributions in bifurcations, Pendelluft, Ventilation, asynchronous –, by high-frequency, 89

Hormones, sex – and control of breathing, Animal, man, Control of breathing, hypoxic ventilatory response, Hypoxic ventilatory response, sex differences, 107

Hypercapnia, and respiratory muscles, Animal, cat, Control of breathing, expiratory muscles, Diaphragm, and lung feedback, Expiratory muscles, and lung feedback, Hypoxia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Hypercapnia, ventilatory response in chronic hyperoxia, Animal, cat, Carotid chemoreceptors, in chronic hypoxia, Control of breathing, after chronic hyperoxia, Dopamine, Hyperoxia, chronic – and control of breathing, 201

Hyperoxia, chronic and control of breathing, Animal, cat, Carotid chemoreceptors, in chronic hypoxia, Control of breathing, after chronic hyperoxia, Dopamine, Hypercapnia, ventilatory response in chronic hyperoxia, 201

Hypoxia, and capillary tortuosity, Animal, Japanese waltzing mouse, Exercise, and capillary tortuosity, Muscle, capillarization, sarcomere length, 1

Hypoxia, and respiratory muscles, Animal, cat, Control of breathing, expiratory muscles, Diaphragm, and lung feedback, Expiratory muscles, and lung feedback, Hypercapnia, and respiratory muscles, Motoneurons of respiratory muscles, and lung feedback, 189

Hypoxia, exercise hyperpnea in –, Animal, goat, Control of breathing, exercise hyperpnea, Exercise, ventilatory response to –, Potassium, and exercise hyperpnea, 239

Hypoxia, ventilatory response, Animal, man, Control of breathing, and hypoxia, Drugs, dichloroacetate, Lactate formation, in the brain and hypoxic ventilatory response, block of –, formation by dichloroacetate, 115

Hypoxic ventilatory response, sex differences, Animal, man, Control of breathing, hypoxic ventilatory response, Hormones, sex – and control of breathing, 107

Hypoxic ventilatory decline, Animal, man, Chemoreceptors, central, peripheral, Control of breathing, hypercapnia, hypoxia, Ventilation, response to hypercapnia, response to hypoxia, 161

Inert gases, intrapulmonary mixing, wash-out from lungs, Alveolar plateau, slope of –, Animal, dog, High frequency ventilation, Single exhalation technique, 11

Inert gases, He, SF_6, wash-out from lungs, Animal, dog, Gas mixing, intrapulmonary, Panting, and intrapulmonary gas mixing, Washout, of gases from lungs, 39

Intercostals, Animal, dog, EMG, of respiratory muscles, Respiratory muscles, parasternal intercostals, interosseous externals, Rib cage, movement and intercostal muscles, 295

Intrapulmonary chemoreceptors, in birds, Anesthetics, and respiration in birds, Animal, goose, Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Sensitivity to halothane, Response of ventilation to CO_2, 337

Isolated lung lobe, blood flow, Animal, dog, Blood flow, to intrapulmonary and extrapulmonary bronchi, Bronchial blood flow, drainage routes, Circulation, bronchial, pulmonary, Radioactive labels, and bronchial circulation, 65

Lactate formation, in the brain and hypoxic ventilatory response, block of –, Animal, man, Control of breathing, and hypoxia, Drugs, dichloroacetate, Hypoxia, ventilatory response –, formation by dichloroacetate, 115

Lactic acid, in anaerobic muscle, Animal, frog, Muscle, gastrocnemius, anaerobic energetics, Phospho-creatine splitting, Technique, ^{31}P-NMR, Temperature, and anaerobic muscle energetics, 37

Laryngeal receptors, discharge pattern during breathing, Animal, dog, CO_2 sensitivity, of laryngeal receptors, Receptors, irritant of the airways, laryngeal, Superior laryngeal nerve, Upper airways, receptors, 217

Larynx, Airflow through the upper airways, depression of ventilation, Animal, dog, temperature in –, Upper airways, airflow through –, 359

Loaded breathing, Animal, man, Expiratory muscles, recruitment in NREM slepp, during hyperinflation, Lung volume, and expiratory muscles, Respiratory muscles, during sleep, Sleep, and respiratory muscles, 47

Lung lobe, isolated, Animal, dog, Blood flow, steady vs pulsatile pulmonary –, Lung perfusion, Pressure, pulmonary occlusion –, Resistance, pulmonary vascular –, 149

Lung perfusion, Animal, dog, Blood flow, steady vs pulsatile pulmonary –, Lung lobe, isolated, Pressure, pulmonary occlusion –, Resistance, pulmonay vascular –, 149

Lung receptors, irritant, laryngeal, Airways, fluid secretion, Animal, pig, Chemoreceptors, pe-

ripheral, Pulmonary afferent fibers, Substance P, 267

Lung receptors, with sympathetic afferents, Animal, dog, Respiratory muscles, and sympathetic lung afferents, Sympathetic lung afferents, stimulation by KCl, Vagotomy, 349

Lung volume, and expiratory muscles, Animal, man, Expiratory muscles, recruitment in NREM sleep, during hyperinflation, Loaded breathing, Respiratory muscles, during sleep, Sleep, and respiratory muscles, 47

Mechanics of breathing, in exercising horse, Animal, horse, Exercise, and mechanics of breathing in horse, Work of breathing, in exercising horse, 279

Micropuncture, of pulmonary vessels, Age, and pulmonary vascular resistance, Animal, ferret, Pulmonary circulation, Pulmonary vascular resistance, 307

Motoneurons of respiratory muscles, and lung feedback, Animal, cat, Control of breathing, expiratory muscles, Diaphragm, and lung feedback, Expiratory muscles, and lung feedback, Hypercapnia, and respiratory muscles, Hypoxia, and respiratory muscles, 189

Muscle, capillarization, sarcomere length, Animal, Japanese waltzing mouse, Exercise, and capillary tortuosity, Hypoxia, and capillary tortuosity, 1

Muscle, gastrocnemius, anaerobic energetics, Animal, frog, Lactic acid, in anaerobic muscle, Phospho-creatine splitting, Technique, ^{31}P-NMR, Temperature, and anaerobic muscle energetics, 137

Muscles, see also Respiratory muscles, Animal, dog, Carotid bodies, and respiratory muscles, EMG, of respiratory muscles, Respiratory muscles, and carotid body activity, Vagus, cold block and respiratory muscle activity, 123

Oxygen radicals, and cigarette smoke, Airways receptors, response to smoke, Animal, rat, Bronchopulmonary afferents, Cigarette smoke, and airway receptors, Drugs, dimethylthiourea, 227

Ozone, and bronchial blood flow, Animal, sheep, Bronchial blood flow, Doppler flow measurement, 325

Panting, and intrapulmonary gas mixing, Animal, dog, Gas mixing, intrapulmonary, Inert gases, He, SF_6, wash-out from lungs, Washout, of gases from lungs, 39

Pendelluft, Airways, flow distribution in bifurcations, High-frequency ventilation, Ventilation, asynchronous –, by high-frequency, 89

pH, at birth, Animlal, lamb, Birth, onset of respiration, Blood gases, at birth, Control of breathing, at birth, Diaphragm, EMG at birth, 251

Phospho-creatine splitting, Animal, frog, Lacitc acid, in anaerobic muscle, Muscle, gastrocnemius, anaerobic energetics, Technique, ^{31}P-NMR, Temperature, and anaerobic muscle energetics, 137

Potassium, and exercise hyperpnea, Animal, goat, Control of breathing, exercise hyperpnea, Exercise, ventilatory response to –, Hypoxia, exercise hyperpnea in –, 239

Pressure, pulmonary artery, Animal, dog, Drug, almitrine, Exercise, and pulmonary artery pressure, Pulmonary vascular resistance, Pulmonary vasoconstriction, Resistance, pulmonary vascular, 75

Pressure, pulmonary occlusion –, Animal, dog, Blood flow, steady vs pulsatile pulmonary –, Lung lobe, isolated, Lung perfusion, Resistance, pulmonary vascular –, 149

Pressure, pulmonary circulation, pulmonary lymphatic –, systemic venous –, Animal, dog, Bronchial circulation, Edema, pulmonary –, formation with elevated central venous pressure, Pulmonary circulation, edema formation, 317

Pulmonary vascular resistance, Animal, dog, Drug, almitrine, Exercise, and pulmonary artery pressure, Pressure, pulmonary artery, Pulmonary vasoconstriction, Resistance, pulmonary vascular, 75

Pulmonary vasoconstriction, Animal, dog, Drug, almitrine, Exercise, and pulmonary artery pressure, Pressure, pulmonary artery, Pulmonary vasular resistance, Resistance, pulmonary vascular, 75

Pulmonary afferent fibers, Airways, fluid secretion, Animal, pig, Chemoreceptors, peripheral, Lung receptors, irritant, laryngeal, Substance P, 267

Pulmonary circulation, Age, and pulmonary vascular resistance, Animal, ferret, Micropuncture, of pulmonary vessels, Pulmonary vascular resistance, 307

Pulmonary vascular, Age, and pulmonary vascular resistance, Animal, ferret, Micropuncture, of pulmonary vessels, Pulmonary circulation, 307

Pulmonary circulation, edema formation, Animal, dog, Bronchial circulation, Edema, pulmonary –, formation with elevated central venous pressure, Pressure, pulmonary circulation, pulmonary lymphatic –, systemic venous –, 317

Radioactive labels, and bronchial circulation, Animal, dog, Blood flow, to intrapulmonary and extrapulmonary bronchi, Bronchial blood flow, drainage routes, Circulation, bronchial, pulmonary, Isolated lung lobe, blood flow, 65

Receptors, irritant of the airways, laryngeal, Animal, dog, CO_2 sensitivity, of laryngeal receptors, Laryngeal receptors, discharge pattern during breathing, Superior laryngeal nerve, Upper airways, receptors, 217

Resistance, pulmonary vascular, Animal, dog, Drug, almitrine, Exercise, and pulmonary artery pressure, Pressure, pulmonary artery, Pulmonary vascular resistance, Pulmonary vasoconstriction, 75

Resistance, pulmonary vascular –, Animal, dog, Blood flow, steady vs pulsatile pulmonary –, Lung lobe, isolated, Lung perfusion, Pressure, pulmonary occlusion –, 149

Respiratory muscles, during sleep, Animal, man, Expiratory muscles, recruitment in NREM sleep, during hyperinflation, Loaded breathing, Lung volume, and expiratory muscles. Sleep, and respiratory muscles, 47

Respiratory muscles, and carotid body activity, Animal, dog, Carotid bodies, and respiratory muscles, EMG, of respiratory muscles, Muscles, see aldso Respiratory muscles, Vagus, cold block and respiratory muscle activity, 123

Respiratory muscles, parasternal intercostals, interosseous externals, Animal, dog, EMG, of respiratory muscles, intercostals, Rib cage, movement and intercostal muscles, 295

Respiratory muscles, and sympathetic lung afferents, Animal, dog, Lung receptors, with sympathetic afferents, Sympathetic lung afferents, stimulation by KCl, Vagotomy, 349

Response of ventilation to CO_2, Anesthetics, and respiration in birds, Animal, goose, Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Intrapulmonary chemoreceptors, in birds, Sensitivity to halothane, 337

Rib cage, movement and intercostal muscles, Animal, dog, EMG, of respiratory muscles, Respiratory muscles, parasternal intercostals, interosseous externals, intercostals, 295

Sensitivity to halothane, Anesthetics, and respiration in birds, Animal, goose, Halothane anesthesia, and intrapulmonary chemoreceptors in birds, Intrapulmonary chemoreceptors, in birds, Response of ventilation to CO_2, 337

Single exhalation technique, Alveolar plateau, slope of –, Animal, dog, High frequency ventilation, Inert gases, intrapulmonary mixing, wash-out from lungs, 11

Size, and energy metabolism, Allometry, Animal, penguin, Energy metabolism, in birds, during ontogeny, 369

Sleep, and respiratory muscles, Animal, man, Expiratory muiscles, recruitment in NREM sleep, during hyperinflation, Loaded breathing, Lung volume, and expiratory muscles, Respiratory muscles, during sleep, 47

Substance P, Airways, fluid secretion, Animal, pig, Chemoreceptors, peripheral, Lung receptors, irritant, laryngeal, Pulmonary afferent fibers, 267

Superior laryngeal nerve, Animal, dog, CO_2 sensitivity, of laryngeal receptors, Laryngeal receptors, discharge pattern during breathing, Receptors, irritant of the airways, laryngeal, Upper airways, receptors, 217

Sympathetic lung afferents, stimulation by KCl, Animal, dog, Lung receptors, with sympathetic afferents, Respiratory muscles, and sympathetic lung afferents, Vagotomy, 349

Technique, ^{31}P-NMR, Animal, frog, Lactic acid, in anaerobic muscle, Muscle, gastrocnemius, anaerobic energetics, Phospho-creatine splitting, Temperature, and anaerobic muscle energetics, 137

Temperature in –, Airflow through the upper airways, depression of ventilation, Animal, dog, Larynx, Upper airways, airflow through –, 359

Temperature, and anaerobic muscle energetics, Animal, frog, Lactic acid, in anaerobic muscle, Muscle, gastrocnemius, anaerobic energetics, Phospho-creatine splitting, Technique, ^{31}P-NMR, 137

Treadmill, walking on – and respiratory frequency, Control of breathing, during walking, Entrain-

ment of breathing during walking, Exercise, and control of breathing, Frequency of breathing, and stepping frequency, Animal, man

Upper airways, receptors, Animal, dog, CO_2 sensitivity, of laryngeal receptors, Laryngeal receptors, discharge pattern during breathing, Receptors, irritant of the airways, laryngeal, Superior laryngeal nerve, 217

Upper airways, airflow through –, Airflow through the upper airways, depression of ventilation, Animal, dog, Larynx, temperature in -, 359

Vagotomy, Animal, dog, Lung receptors, with sympathetic afferents, Respiratory muscles, and sympathetic lung afferents, Sympathetic lung afferents, stimulation by KCl, 349

Vagus, cold block and respiratory muscle activity, Animal, dog, Carotid bodies, and respiratory muscles, EMG, of respiratory muscles, Muscles, see also Respiratory muscles, Respiratory muscles, and carotid body activity, 123

Ventilation, asynchronous –, by high-frequency, Airways, flow distribution in bifurcations, High-frequency ventilation, Pendelluft, 89

Ventilation, response to hypercapnia, response to hypoxia, Animal, man, Chemoreceptors, central, peripheral, Control of breathing, hypercapnia, hypoxia, Hypoxic ventilatory decline, 161

Washout, of gases from lungs, Animal, dog, Gas mixing, intrapulmonary, Inert gases, He, SF_6, wash-out from lungs, Panting, and intrapulmonary gas mixing, 39

Work of breathing, in exercising horse, Animal, horse, Exercise, and mechanics of breathing in horse, Mechanics of breathing, in exercising horse, 279